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Current Support Brief

BRAZIL TURNS TO SOVIET BLOC FOR AID
IN THE ELECTRIC POWER PROGRAM



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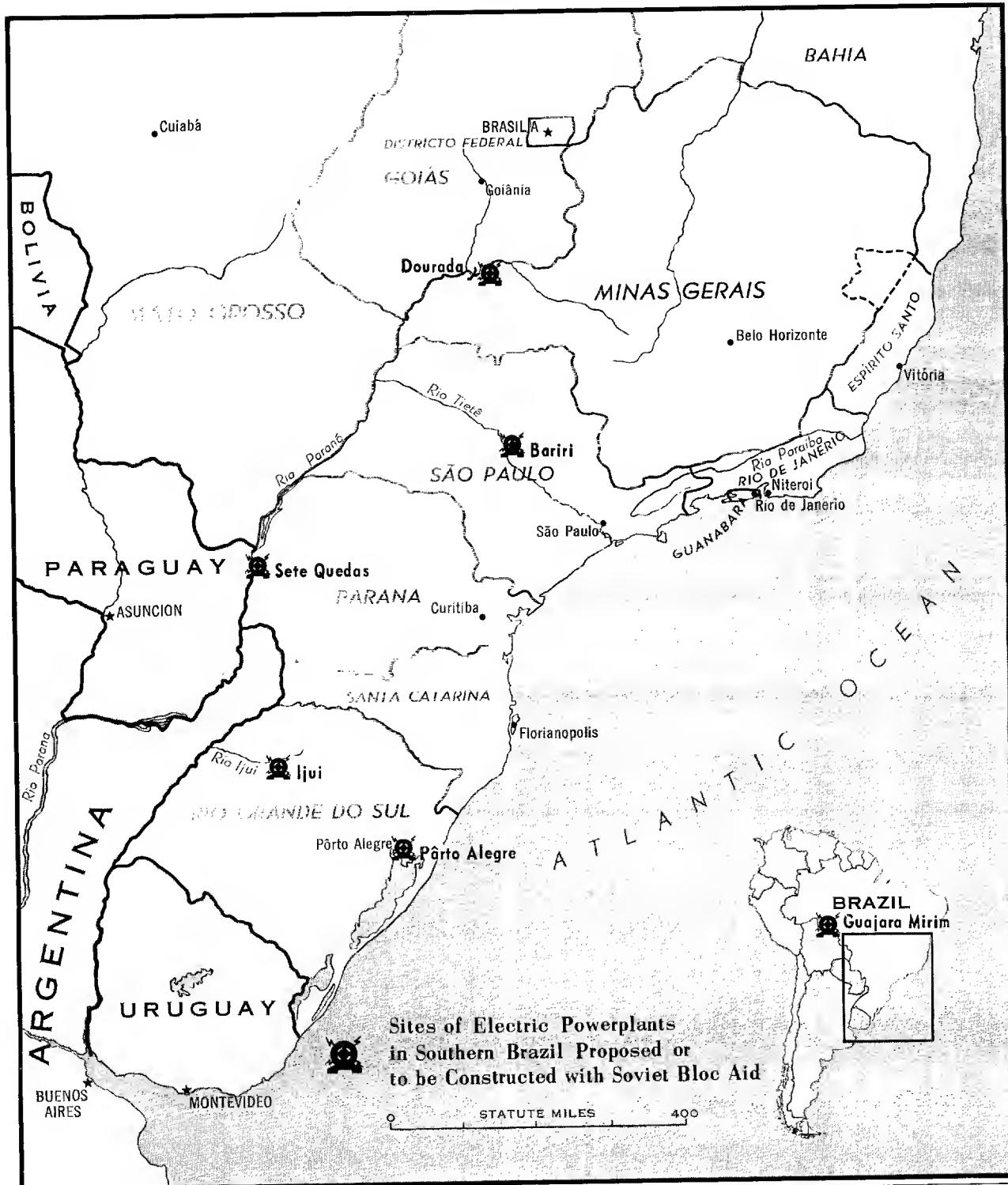
The Soviet Bloc is capitalizing on the existence of a chronic shortage of electric power in Brazil and the current difficulties in Brazilian-US relations by offering Brazil assistance in the development of electric power generating capacity. Early in December 1962, Poland granted a credit of \$26 million to Brazil for the construction of a 200-megawatt (mw) thermal powerplant to be constructed in the state of Rio Grande do Sul. 1/ The USSR has expressed an interest in the construction of a large hydroelectric plant on the Parana River in southern Brazil. 2/ Thus far, however, no firm agreement has been reached, and the project remains tentative. A third Soviet Bloc country, Czechoslovakia, currently is completing its earlier contracts, which include equipment for a hydroelectric plant with a capacity of 148 mw in the state of Sao Paulo and a thermal electric plant with a capacity of 24 mw in the state of Rio Grande do Sul. 3/ In October 1962, Czechoslovakia also was awarded a new contract for the supply of turbines with a probable capacity of 100 mw and of some electrical equipment for an extension of the hydroelectric plant at Cachoeira Dourada in the state of Goias. 4/ If all of the projects for which contracts have been negotiated are completed, the total electric generating capacity supplied to Brazil by the Soviet Bloc would amount to 475 mw, or nearly 10 percent of the total national generating capacity in 1960. If the proposed plant on the Parana River is completed, the capacity would be substantially increased. (For locations of the projects mentioned above, see the map.)

1. Brazilian Power Requirements

Brazilian industrial output has more than doubled in the past 10 years, and the rate of growth during 1960-61 has been close to 9 percent a year. 5/ During the decade 1950-60, electric generating capacity increased from 1,883 mw to 4,800 mw, an average annual rate of growth of 9.8 percent. This high rate of growth of installed electrical capacity has not been sufficient, however, to meet increased demand. There is evidence of severe

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local power shortages and occasional rationing of electricity to consumers. Brazilian planners estimate that the excess of demand for power over installed capacity has varied between 30 and 40 percent in recent years. 6/ The federal government of Brazil recently set as its goal a growth in gross national product during 1963-65 of 7 percent a year, which, according to Brazilian officials, would require an average annual increase of about 12 percent in electric generating capacity. 7/

As early as 1956, a State Program of Action for Electric Power was drawn up by President Kubitschek's administration, envisaging increased governmental participation in production and distribution of electric power in order to attain goals of 5,000 mw of installed capacity by 1960 and 8,000 mw by the end of 1965. The succeeding administrations of Presidents Quadros and Goulart have reaffirmed the State Program of Action, with a few alterations. 8/ Hydroelectric energy has been and will continue to be the principal source of electric power because of the limited availability of oil and natural gas and the low calorific value of Brazilian coal. Hydrographic conditions are highly favorable for the exploitation of waterpower, particularly in south and south-central Brazil, in which is contained half of the nation's great hydroelectric power reserves. The south-central area, which includes the states of Sao Paulo, Minas Gerais, Rio de Janeiro, and Guanabara, constitutes the nation's most important power market, with 80 percent of Brazilian industrial production and 75 percent of agricultural production. 9/ The following tabulation shows the increase of hydroelectric and thermal electric power capacity in recent years and the total national capacity planned for 1965 and 1970 (in megawatts) 10/:

<u>Year</u>	<u>Hydroelectric Power</u>	<u>Thermal Electric Power</u>	<u>Total</u>
1940	1,009	235	1,244
1950	1,536	347	1,883
1955	2,481	667	3,148
1960	3,642	1,158	4,800
1965	7,300	1,320	8,620
1970	N.A.	N.A.	13,000

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2. Brazilian Investment Requirements

To meet the heavy costs of expanding electric power capacity, the federal government has estimated that approximately \$800 million to \$1 billion is needed during 1961-65. Of this sum, about \$160 million is for foreign exchange requirements. In order to obtain investment funds of up to \$1 billion, the government has proposed to increase taxes in the public utility sector, to promote consumer participation in the capital of the producing enterprises, to adopt a more realistic rate policy, and to obtain additional credits from foreign sources. 1/

The problem of attracting domestic and foreign capital for investment in Brazilian power projects has been enormously complicated in recent years by three discouraging tendencies as follows: the instability of the federal government, a high rate of inflation (about 50 percent in 1962), 12/ and expropriations or threats of expropriation of foreign holdings by state governments as well as general governmental hostility to foreign investment. Foreign loans, such as those arranged through the Alliance for Progress, have been partly dissipated by rampant inflation, and private investment from domestic and foreign sources has declined as a result of inflation and threats of seizure of property.

3. Soviet Bloc Penetration

a. Czechoslovakia

Under these circumstances the economic penetration efforts of the Soviet Bloc have had some limited success. Beginning in 1959, Czechoslovakia extended a credit of \$7.2 million for power generating equipment for the Bariri Hydroelectric Powerplant on the Tiete River in the state of Sao Paulo. The Czechoslovaks agreed to furnish 3 Kaplan hydroturbines and 2 hydrogenerators of about 50 mw each and some auxiliary equipment. A third generator, all transformers required, and much of the auxiliary equipment was to be built by Brazilian firms under the technical guidance of Czechoslovak engineers. Seventy percent of the credit was to be repaid in coffee and the rest in other Brazilian goods. Some of the equipment was shipped from Czechoslovakia in 1962, and the project was scheduled for completion in 1963. 13/

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Czechoslovakia also has furnished equipment at an estimated value of \$3 million for a 24-mw thermal electric powerplant at Porto Alegre in the state of Rio Grande do Sul. The equipment was delivered during 1961-62, and the project was nearing completion late in 1962. This plant is to burn low-grade Brazilian coal, mined locally, and is to be joined to the power network that Rio Grande do Sul expropriated in 1959 from a subsidiary of American and Foreign Power Company. 14/

In addition to these two projects, Czechoslovakia has furnished equipment (8 units of 0.4 mw each) for a diesel generating plant that began operations in March 1962 at Guajara Mirim in the state of Guapore, near the Bolivian border. 15/ In October 1962 the Czechoslovaks were awarded a contract for the supply of hydraulic turbines with a possible total capacity of 100 mw and of some electrical equipment for an extension of a hydroelectric plant at Cachoeira Dourada in the state of Goias. The contract might have been awarded to a Japanese firm, but the Brazilian National Development Bank, probably in an attempt to ease serious balance of payments problems, insisted that it be finally awarded to Czechoslovakia, even though the Czechoslovak bid was higher than that of the Japanese firm. 16/

b. Poland

Early in December 1962, \$26 million from a \$70 million Polish credit to Brazil was earmarked for a thermal electric plant of 200 mw to be erected on the Ijui River in Rio Grande do Sul. This plant, designed to utilize local coal of a low-calorific content, along with an accompanying coal washing plant, are to be furnished by the Poles. No terminal date has been announced, but construction is to begin by the middle of 1963. 17/

c. USSR

During 1961 the USSR made several proposals to the government of Brazil, offering aid in constructing hydroelectric powerplants, and showed particular interest in the projected 3,000-mw powerplant at Urubupunga on the Parana River on the border of Sao Paulo and Mato Grosso states. In 1962, when a number of Western European and Japanese

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firms submitted bids on equipment for the first stage of the Urubupunga project, no formal Soviet bid was made, and the contract subsequently was awarded to a group of Italian electrical equipment companies. 18/

According to President Goulart of Brazil, the USSR has proposed building a dam and a powerplant at Sete Quedas, about 250 miles downstream from Urubupunga, near the border of Brazil and Paraguay. 19/ The size of the proposed powerplant has not been divulged, but from the vague references to credits involved, it would appear to be a very large hydroelectric project, possibly as large as Urubupunga. If the USSR submits a formal offer for the Sete Quedas project and if such an offer is accepted by Brazil, the project could have a dramatic propaganda impact on Latin America.

The presence of large numbers of Soviet engineers and technicians for a period of many years at the plant site on the Parana River, near the borders of Paraguay, Uruguay, and Argentina and not far from the major population centers of Brazil, would afford the USSR great opportunity for varied types of penetration, infiltration, and subversion. At the end of December 1962, a Soviet delegation arrived in Brazil to negotiate a new trade pact. 20/ Construction of the Sete Quedas plant may be included in this discussion.

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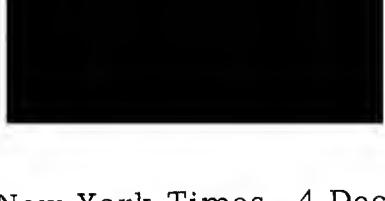
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Analyst:



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